EP 0 785 578 A3

(12)

EUROPEAN PATENT APPLICATION

(88) Date of publication A3: 22.04.1998 Bulletin 1998/17

(51) Int Cl.⁶: **H01L 51/20**, H01L 51/30, H01L 27/12

(11)

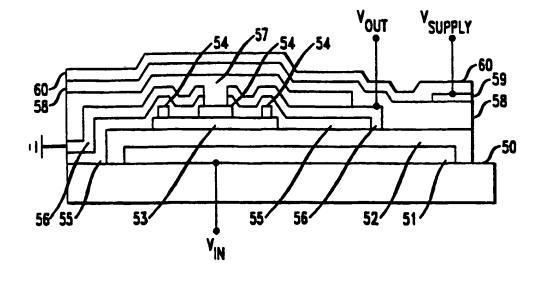
- (43) Date of publication A2: 23.07.1997 Bulletin 1997/30
- (21) Application number: 97300063.1
- (22) Date of filing: 07.01.1997
- (84) Designated Contracting States: **DE FR GB**
- (30) Priority: 16.01.1996 US 587426
- (71) Applicant: AT&T Corp.

 New York, NY 10013-2412 (US)
- (72) Inventors:
 - Baumbach, Joerg
 New Providence, New Jersey 07974 (US)

- Katz, Howard Edan
 Summit, New Jersey 07901 (US)
- Dodabalapur, Ananth
 Millington, New Jersey 07946 (US)
- (74) Representative: Watts, Christopher Malcolm Kelway, Dr. et al Lucent Technologies (UK) Ltd, 5 Mornington Road Woodford Green Essex, IG8 0TU (GB)
- (54) Circuit comprising complementary thin film transistors
- (57) In preferred embodiments of the invention, the n-channel inorganic TFTs have an amorphous Si active layer (53), and the p-channel organic TFTs have α -hexathienylene (α 6T) active layer (58). Complementary

inverters according to the invention are disclosed, as is an exemplary processing sequence that can be used to manufacture integrated complementary inverters and other complementary circuits according to the invention.

FIG. 9





EUROPEAN SEARCH REPORT

Application Number EP 97 30 0063

ategory	Citation of document with indici- of relevant passage		Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.C1.6)
P,X	DODABALAPUR A ET AL: organic/inorganic com APPLIED PHYSICS LETTE AIP, USA, vol. 68, no. 16, ISSN pages 2246-2248, XP00 * the whole document	plementary circuits" RS, 15 APRIL 1996, 0003-6951, 2055715	1,2,4-6	H01L51/20 H01L51/30 H01L27/12
Ε	US 5 612 228 A (SHIEH + column 2, line 3 - claims 1-18; figures	column 2, line 30;	1,2,4-6	
A	PATENT ABSTRACTS OF JAPAN vol. 014, no. 016 (E-872), 12 January 1989 å JP 01 259563 A (MITSUBISHI ELECTRIC CORP), 17 October 1989, * abstract *		1,2,4	
D,A	DODABALAPUR A ET AL: "ORGANIC HETEROSTRUCTURE FIELD-EFFECT TRANSISTORS" SCIENCE, vol. 269, 15 September 1995,			TECHNICAL FIELDS SEARCHED (Int.CI.8)
	pages 1560-1562, XP00			HOIL
-	The present search report has be	een drawn up for all claims		
	Place of search	Date of completion of the search		Examiner
Y :	THE HAGUE CATEGORY OF CITED DOCUMENTS conticularly relevant d taken alone opericularly relevant d combined with anoth occurrent of the same category	T: theory or princ E * earlier patent c after the fuling D: document cite L: document cite	ple underlying to locument, but pu late d in the applicati I for other reaso	ublished on, or on ne
Ô	echnological background non-written disclosure mermediate document			mily, corresponding